

REMARKS

Applicant notes the filing of Supplemental Information Disclosure Statements herein on July 1, 2005 and December 23, 2005, and note that no copies of the PTO/SB/08A were returned with the outstanding Office Action. Applicant respectfully requests that the information cited on the PTO/SB/08A be made of record herein and an initialed copy of the PTO/SB/08A be returned to Applicant's undersigned attorney evidencing the same. A copy of each PTO/SB/08A and a date-stamped copy of the transmittal postcards evidencing receipt of the same by the Office are enclosed for the Examiner's reference.

The Office Action mailed December 13, 2005, has been received and reviewed. Claims 1 through 7, 9 through 13, and 18 through 22 are currently pending in the application. Claims 1 through 7, 9 through 13, and 18 through 22 stand rejected. Applicant has amended claims 1, 12, and 13, and respectfully request reconsideration of the application as amended herein.

35 U.S.C. § 102(b) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 6,043,563 to Eldridge et al.

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Eldridge et al. (U.S. Patent No. 6,043,563). Applicant respectfully traverses this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Eldridge describes spring contact areas fabricated at areas on an electronic component. In the technique illustrated in FIGS. 1A, 1B, and 1C, a conductive layer 120 is disposed on the surface of the component 108. A blanket layer 126 of metallic material is deposited and electrically contacts the layer 120. A wire 102 is bonded to the top surface of the conductive layer 126 and configured to have a spring shape. Next, the wire stem and adjacent area of the component 108 are overcoated with one or more layers of a metallic material 134, resulting in a

spring contact element which is a freestanding elongate composite interconnection structure. Col. 7, lines 6-40. FIG. 5A illustrates a technique for effecting space-translation with spring contact elements which are composite interconnection elements. Metal lines 506 are formed on the surface of the component 502. This metal line defines an “extended tail” for the resulting spring contact element 510 which is a *composite* interconnection element.

FIG. 5B of Eldridge depicts spring contact elements which are plated-up structures. FIGS. 2A-2C depict a method of seeding and depositing metallic material to form plated-up structures. Masking layers 204, 206, 208 are patterned so that an opening in one layer extends further than an opening in an underlying layer. Conductive metallic material can be deposited in the openings, then the masking layers 204, 206, and 108 may be removed. A resulting spring contact element 220 having its base end 222 adjacent the area 212 on the surface of the substrate 202 and its free-end 224 elevated in the z-axis above the surface of the substrate 202.

Claim 1, as amended herein, recites a “method of fabricating a substrate assembly, comprising: providing a substrate having a first surface and an opposing second surface; forming a layer of resilient conductive material on at least a portion of at least one of the first and second surfaces of the substrate; forming a plurality of electrically isolated spring-biased electrical contacts from the layer of resilient conductive material; forming a plurality of elongate conductive traces from the layer of resilient conductive material, each elongate conductive trace associated with an electrically isolated spring-biased electrical contact of the plurality and extending therefrom, each elongate conductive trace at least partially defined by a pair of substantially parallel cavities in the layer of resilient conductive material; deforming at least a portion of at least one electrically isolated spring-biased electrical contact of the plurality of electrically isolated spring-biased contacts from a position co-planar with the associated elongated trace and adjacent the at least one of the first and second surfaces to another position extending away from the at least one of the first and second surfaces of the substrate; and treating the layer of resilient conductive material after forming the at least one electrically isolated spring-biased electrical contact to permanently enhance strength and elasticity of a portion of the resilient conductive material comprising the at least one electrically isolated spring-biased electrical contact.”

Eldridge fails to describe deforming at least a portion of an electrically isolated spring-biased electrical contact from a position co-planar with an elongated trace and adjacent at least one of the first and second surfaces of a substrate to another position extending away from the at least one of the first and second surfaces of the substrate. Eldridge describes depositing metallic material on offset masking layers 204, 206, 208 to form a spring contact element 560 with a free end (tip) 564. The spring contact elements 560 of Eldridge are not *deformed* to a position extending away from the substrate, rather the spring contact elements are formed in place with a free end 564 elevated in the z-axis above the surface of the substrate 552. (See FIGS. 2A-2C for the seeding and depositing of metallic material)

Eldridge further fails to describe forming elongate conductive traces from the layer of resilient conductive material, each elongate conductive trace associated with an electrically isolated spring-biased electrical contact and defined by a pair of substantially parallel cavities in the layer of resilient conductive material.

Accordingly, Eldridge fails to describe each and every element of claim 1. Therefore, it is respectfully submitted that the rejection to claim 1 should be withdrawn.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 5,632,631 to Fjelstad et al. in view of U.S. Patent No. 6,043,563 to Eldridge et al.

Claims 1 through 3, 6, 7, 9 through 13, and 18 through 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fjelstad et al. (U.S. Patent No. 5,632,631) in view of Eldridge et al. (U.S. Patent No. 6,043,563). Applicant respectfully traverses this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable

expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

Fjelstad teaches flexible, tab-like cantilever contacts. Each contact 302 includes an anchor region 306 closely overlying connector body top surface 304 and secured to the connector body 300. A terminal 308 formed integrally with the contact is provided at the proximal end of each anchor region 306. A flexible tab 310 extends from the opposite distal end of each anchor region 306. Each tab is generally in the form of a strip extending upwardly, away from the connector body top surface 304. Col 14, lines 17-49.

The teachings of Eldridge have been summarized hereinabove.

The 35 U.S.C. § 103(a) obviousness rejections of claims 1 through 3, 6, 7, 9 through 13, and 18 through 22 are improper because the combination of Fjelstad and Eldridge fails to teach or suggest each and every element of the claims.

Fjelstad and Eldridge fail to teach or suggest forming a plurality of elongate conductive traces from the layer of resilient conductive material, each elongate conductive trace at least partially defined by a pair of substantially parallel cavities in the layer of resilient conductive material. The spring contact elements 510 of Eldridge are formed by depositing metallic material into openings, and are not partially defined by a pair of substantially parallel cavities in a layer of resilient conductive material. The contacts 302 of Fjelstad, depicted in FIGS. 12-14 are individual contacts 302 mounted on a top surface 304 of a connector body, and are not partially defined by a pair of substantially parallel cavities in the layer of resilient conductive material. (see FIG. 12)

Accordingly, the Fjelstad and Eldridge references cannot and do not establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the presently claimed invention of independent claim 1.

The nonobviousness of independent claim 1 precludes a rejection of claims 2 through 3, 6, 7, 9 through 13, and 18 through 22 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. See *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicants

request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to independent claim 1 and claims 2 through 3, 6, 7, 9 through 13, and 18 through 22 which depend therefrom.

Claims 2 and 3 are additionally allowable as neither Fjelstad nor Eldridge teach providing a laminate sheet of the resilient conductive material; bonding the laminate sheet to the at least one of the first and second surfaces of the substrate; and forming electrically isolated spring-biased electrical contacts and elongate conductive traces extending therefrom from the layer of resilient conductive material.

Obviousness Rejection Based on U.S. Patent No. 5,632,631 to Fjelstad et al. in view of U.S. Patent No. 6,043,563 to Eldridge et al. as applied above, and further in view of U.S. Patent No. 4,950,173 to Minemura et al.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fjelstad et al. (U.S. Patent No. 5,632,631) in view of Eldridge et al. (U.S. Patent No. 6,043,563) as applied above, and further in view of Minemura et al. (U.S. Patent No. 4,950,173) Applicant respectfully traverses this rejection, as hereinafter set forth.

Claims 4-5 are each allowable, among other reasons, as depending from claim 1, which should be allowed. Eldridge and Fjelstad fail to teach each and every element of claim 1. Minemura fails to cure the deficiencies of Eldridge and Fjelstad.

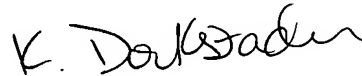
ENTRY OF AMENDMENTS

The amendments to claims 1, 12, and 13 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Support may be found in FIG. 3 of the as-files drawings.

CONCLUSION

Claims 1 through 7, 9 through 13, and 18 through 22 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,



Kirsten L. Dockstader
Registration No. 54,597
Attorney for Applicant
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: March 13, 2006
KLD/dlm:slm

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

R. Canella

Serial No.: 10/668,925

Filed: September 23, 2003

**For: METHODS OF FORMING A
CONTACT ARRAY IN SITU ON A
SUBSTRATE (AS AMENDED)**

Confirmation No.: 3353

Examiner: D. Nguyen

Group Art Unit: 3729

**Attorney Docket No.: 2269-4322.1US
(MUE1-0542.01/US)**

CERTIFICATE OF MAILING

I hereby certify that this correspondence along with any attachments referred to or identified as being attached or enclosed is being deposited with the United States Postal Service as First Class Mail on the date of deposit shown below with sufficient postage and in an envelope addressed to the Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

December 21, 2005

Date

Signature

Shawnee L. MacDonald
Name (Type/Print)

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed on attached Form PTO/SB/08 be considered by the Examiner and made of record. Copies of U.S. patents and U.S. patent publications are not being submitted pursuant to M.P.E.P. 609 III A(2).

In accordance with 37 C.F.R. § 1.97(g) and (h), filing of this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made or an

Serial No. 10/668,925

admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b). Further, no representation is made by Applicant herein that no other possible material information as defined in 37 C.F.R. § 1.56 (b) exists.

U.S. Patent Documents

<u>U.S. Patent No.</u>	<u>Publication Date</u>	<u>Patentee</u>
US - 2003/0042595 A1	03/06/2003	Canella
US - 6,551,112 B1	04/22/2003	Li et al.

Applicant offers to supply any explanation or discussion of the documents which the Examiner feels is necessary or desirable and which is requested.

This Supplemental Information Disclosure Statement is filed after the mailing date of the first Office Action on the merits.

The fee pursuant to 37 C.F.R. § 1.17(p) is enclosed.

Respectfully submitted,



Kirsten L. Dockstader
Registration No. 54,597
Attorney for Applicant
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: December 21, 2005
KLD/ljb:slm

Enclosures: Form PTO/SB/08
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Supplemental Information Disclosure Statement (2 pages); Form
PTO/SB/08 (1 page); check no 8851 in the amount of \$180.00.

Invention:	METHODS OF FORMING A CONTACT ARRAY IN SITU ON A SUBSTRATE (AS AMENDED)
Applicant(s):	R. Canella
Filing Date:	September 23, 2003
Serial No.:	10/668,925
Date Sent:	December 21, 2005 via first class mail
Docket No.:	2269-4322.1US
KLD/ljb:slm	

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

R. Canella

Serial No.: 10/668,925

Filed: September 23, 2003

For: METHODS OF FORMING A
CONTACT ARRAY IN SITU ON A
SUBSTRATE (AS AMENDED)

Confirmation No.: 3353

Examiner: D. Nguyen

Group Art Unit: 3729

Attorney Docket No.: 2269-4322.1US
(MUEI-0542.01/US)

CERTIFICATE OF MAILING

I hereby certify that this correspondence along with any attachments referred to or identified as being attached or enclosed is being deposited with the United States Postal Service as First Class Mail on the date of deposit shown below with sufficient postage and in an envelope addressed to the Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

June 28, 2005
Date

Signature

Joseph A. Walkowski
Name (Type/Print)

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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Alexandria, VA 22313-1450

Sir:

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed on attached Form PTO/SB/08 be considered by the Examiner and made of record. Pursuant to M.P.E.P. 609 III A(2), copies of the cited U.S. patents are not being provided.

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admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b). Further, no representation is made by Applicant herein that no other possible material information as defined in 37 C.F.R. § 1.56 (b) exists.

U.S. Patent Documents

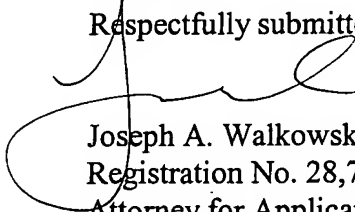
<u>U.S. Patent No.</u>	<u>Publication Date</u>	<u>Patentee</u>
US - 5,647,756	07/15/1997	Twigg et al.
US - 5,791,914	08/11/1998	Loranger et al.
US - 6,174,174 B1	01/16/2001	Suzuki et al.
US - 6,229,320 B1	05/08/2001	Haseyama et al.
US - 6,439,897 B1	08/27/2002	Ikeya
US - 6,503,089 B2	01/07/2003	Saijo et al.
US - 6,821,129 B2	11/23/2004	Tsuchiya

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The fee pursuant to 37 C.F.R. § 1.17(p) is enclosed.

Respectfully submitted,


Joseph A. Walkowski
Registration No. 28,765
Attorney for Applicant(s)

TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: June 28, 2005

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/668,925
				Filing Date	September 23, 2003
				First Named Inventor	R. Canella
				Group Art Unit	3729
				Examiner Name	D. Nguyen
				Attorney Docket Number	2269-4322.1US (MUEI-0542.01/US)
Sheet	1	of	1		

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-5,647,756	07/15/1997	Twigg et al.	
		US- 5,791,914	08/11/1998	Loranger et al.	
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FOREIGN PATENT DOCUMENTS						
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		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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